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INNOVATION PROFILE

Colorado's Patient-Centered Medical Home Pilot Met Numerous Obstacles, Yet Saw Results Such As Reduced Hospital Admissions

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ABSTRACT The Colorado Multipayer Patient-Centered Medical Home Pilot, which ran from May 2009 through April 2012, was one of the first voluntary multipayer medical home pilot projects in the country. Six health plans, the state's high-risk pool carrier, and sixteen family or internal medicine practices with approximately 100,000 patients participated. Although a full analysis is currently under way, preliminary results show that the pilot significantly reduced emergency department visits and also reduced hospital admissions, particularly for patients with multiple chronic conditions. One payer reported a return on its investment of 250–400 percent in the pilot. However, participants also ran into numerous obstacles. Among them: Many practices were left providing extra services to a large fraction of patients whose employer-sponsored insurance plans declined to pay the enhanced fees necessary to cover the cost of the patient-centered medical home expansion. The experience demonstrates that creating patient-centered medical homes and enabling them to be successful will take strong commitments and collaborative efforts on multiple fronts.

In 2008, HealthTeamWorks, a nonprofit, multistakeholder collaborative, was asked by the two largest health plans in Colorado to convene the Colorado Multipayer Patient-Centered Medical Home Pilot. That request and the pilot that resulted arose in the context of a long history of collaboration among providers and health plans to develop and implement clinical guidelines as part of the Colorado Clinical Guidelines Collaborative, the precursor to HealthTeamWorks.

With seed funding from health plans and additional funding from the Colorado Trust and the Commonwealth Fund, the Colorado pilot was designed to prove that the medical home is a scalable, effective solution to achieve Triple Aim[1] goals: provide better, patient-centered care to improve individuals' health; achieve improved population health; and reduce cost trends. A complementary goal was to improve satisfaction for patients and health care teams.

As a market with no dominant health plan payer, Colorado was ideal for a multipayer pilot. Six health plans—UnitedHealthcare; Anthem-WellPoint; Aetna; Cigna; Humana; and Cover-Colorado, the state's high-risk pool carrier—agreed to provide enhanced compensation to sixteen family medicine and internal medicine practices. Additionally, Colorado Medicaid offered grant opportunities but not enhanced payment.

The plans agreed to a blended compensation model that included fee-for-service payments, a per member per month care management fee,

and a pay-for-performance bonus. The care management fee was intended to assist practices in building infrastructure, including care coordination and care management services. The pay-for-performance bonus would reward practices that achieved predetermined cost and quality targets. Enhanced reimbursement to practices commenced in May 2009.

Program Design

STEERING COMMITTEE AND LEADERSHIP The program was governed by a steering committee with local and national representatives from health plans, employers, physician societies, and other organizations (see the online Appendix).[2] Pilot leaders looked to the Joint Principles of the Patient-Centered Medical Home[3] for high-level guidance as they developed an implementation strategy, which was also informed by input from a patient advisory group.

With so many stakeholders having diverse and at times competing priorities, there was the risk that each would want to establish its own measures of success. Allowing this would have increased fragmentation and administrative burden for practices, reducing their ability to concentrate resources on achieving pilot goals. Thus, pilot leaders were committed to creating common administrative processes and common measures and targets to meet Triple Aim goals, including a subset of targets for the pay-for-performance bonus program.

ESTABLISHING MEASURES AND TARGETS To meet the complementary goals of better care and improved individual and population health, pilot leaders established measures and targets for patients with diabetes and cardiovascular disease, as well as targets for tobacco cessation, depression screening, and preventive care (Exhibit 1). To lower cost trends, the pilot sought to reduce emergency department visits and hospital admissions and readmissions, and to increase use of generic pharmaceuticals. An additional goal was an improved experience for patients and the health care team, as measured by surveys and interviews.

PARTICIPATION OF SMALL PRACTICES A unique aspect of this pilot was its preponderance of small, independent practices, which make up the majority of physician practices in Colorado.[4] Practices that applied to participate in the pilot were evaluated based on demographics; culture; experience with quality improvement programs; and technological resources, such as an electronic health record or registry.

All practices had to have achieved at least level 1 recognition—the lowest level of recognition available—by the National Committee for Quality Assurance (NCQA) Patient-Centered Medical Home[5] program to participate in the pilot and receive the care management fee. Prior to the payment start date, fourteen of the sixteen practices accepted into the pilot (88 percent) achieved NCQA level 3 recognition, the highest level.[6]

ELEMENTS FROM OTHER MODELS Elements from the NCQA assessment tool and principles from the Chronic Care Model[7] were used to guide practices in becoming patient-centered medical homes. To help practices with this transformation, each was assigned a HealthTeamWorks quality improvement coach who worked on site every two to four weeks assessing practice capabilities, assisting with culture change, encouraging team-based care, facilitating implementation of guidelines and clinical measures, assisting with meaningful use of technology, and guiding care coordination and care management. Practice representatives attended face-to-face learning sessions and webinars to network, exchange experiences, and hear from patient-centered medical home experts.

USE OF DATA Additionally, the participating health plans agreed to provide practices with data on their patients' use of services and identify patients in particular need of care management—for instance, those with multiple chronic conditions, with mental health issues, on multiple medications, or likely to incur excessive health care expenses from frequent hospitalizations or emergency department visits. Practices believed that these data were critical to their ability to contain costs. However, as discussed below, most plans were unable to follow through.

CALCULATING THE CARE MANAGEMENT FEE To calculate the monthly care management fee to pay to physician practices, plans first had to determine how many of their plan members to attribute to each practice. All plans agreed to follow a common attribution method based on an eighteen-month retrospective review of evaluation and management codes and pharmacy benefit claims (see Exhibit 1A in the online Appendix for further information).[2]

The monthly payment was determined by multiplying the attributed patients in each practice by the per member per month case management fee. Most of the patients in the sixteen practices that participated in the pilot were in preferred provider benefit plans and thus not required to designate a primary care provider. Therefore, each health plan used claims data to infer which physician effectively was a patient's primary care provider.

RESOURCES REQUIRED Plans agreed to support a consistent payment model, payment schedules, and administrative procedures. The physi-

EXHIBIT 1

Pay-For-Performance And Selected Quality Targets For The Multipayer Patient-Centered Medical Home Pilot In Colorado

Measure	Pay-for-performance targets	Quality targets
DIABETES		
HbA1c management: poor control, greater than 9%[a]	≤15%	≤5%
Blood pressure management: <130/80[a]	≥25%	≥70%
LDL cholesterol management: <100 mg/dl[a]	≥36%	≥70%
Tobacco cessation intervention	≥80%	≥80%
Depression screening	≥40%	≥40%
Diabetic eye exam	—[b]	≥80%
Medical attention for nephropathy	—[b]	≥90%
Influenza vaccination	—[b]	≥75%
Aspirin for diabetes patients over 40	—[b]	≥85%
Lipid test documentation	—[b]	≥90%
HbA1c documentation	—[b]	≥90%
Statin for diabetes patients over 40	—[b]	≥70%
Tobacco use assessment	—[b]	≥80%
HEART/STROKE		
Blood pressure management: <140/90[a]	≥75%	≥75%
LDL cholesterol management: <100 mg/dl[a]	≥50%	≥50%
Tobacco cessation intervention	≥80%	≥80%
Depression screening	≥40%	≥40%
Complete lipid profile	—[b]	≥80%
Lipid-lowering therapy	—[b]	≥80%
Use of aspirin or another antithrombotic	—[b]	≥80%
Tobacco use assessment	—[b]	≥80%
PREVENTION		
Tobacco cessation intervention	—[b]	≥80%
Breast cancer screening	—[b]	≥70%
Colorectal cancer screening	—[b]	≥70%
Alcohol screening	—[b]	≥60%
Body mass index in adults	—[b]	≥80%
Body mass index counseling	—[b]	≥60%
Pneumonia vaccination for older adults	—[b]	≥80%
COST/UTILIZATION		
Reduction in ED visits	5%	—[b]
Reduction in inpatient hospital admissions	5%	—[b]
Increase in generic pharmaceuticals	10%	—[b]

SOURCE Colorado Multipayer Patient-Centered Medical Home Pilot. **NOTES** HbA1c is hemoglobin A1c. LDL is low-density lipoprotein. ED is emergency department. [a]These pay-for-performance targets were based on national standards, whereas the quality targets served to spur practices to engage in continuous quality improvement. [b]These measures were not part of the pay-for-performance program.

cian advisory subcommittee estimated the practice resources required to maintain each level of NCQA recognition.

Per member per month fees were established for NCQA levels 1, 2 and 3, based on the cost estimates for delivering enhanced care, plans' assessments of their ability to recoup up-front investments, and comparison to per member per month payments for other pilots. Each plan set its own per member per month fees, with appropriate antitrust protection, ranging from approximately $4 for practices that had achieved NCQA level 1 recognition to approximately $8 for those that had attained level 3.

The pay-for-performance program, which had to be developed de novo, specified that 60 percent of the bonus was to be paid for quality results and 40 percent was to be based on cost and utilization outcomes. The quality outcomes were derived from electronic health record or registry data submitted to HealthTeamWorks.

ASSESSING PERFORMANCE Assessing each practice's performance against cost and utilization metrics was difficult because many of the utilization outcomes are relatively rare events, especially in smaller practices. To circumvent this issue, the participating practices and health plans agreed to aggregate cost and utilization data across the whole pilot, with pay-for-performance bonuses allocated to practices based on their number of attributed patients.

Results Are Pending

The participating health plans have provided claims data to the program evaluator, chosen in partnership with the Commonwealth Fund, for assessment of care quality, utilization, and costs. Patient surveys will be evaluated to determine patient satisfaction. The evaluation, which is being performed by researchers at the Harvard School of Public Health, is in progress; results will be published separately once the data analysis is completed.

But preliminary results show that the pilot significantly reduced the number of emergency department visits and also reduced hospital admissions, particularly for patients with multiple chronic conditions. One payer reported a return on its investment of 250–400 percent in the pilot.[8] For practices, infrastructure measures improved in all areas, including the use of team-based care, health information systems, evidence-based guidelines, self-management support, and care coordination. Quality measures also improved for processes (such as screening for tobacco use, depression, and breast and colorectal cancer), as well as intermediate outcomes (such as reduction of lipids and blood pressure levels for patients with diabetes and cardiovascular disease).

Implementation Challenges

CONFLICT AND DISTRUST Implementing a pilot of such complexity and with multiple health plans and physician groups was challenging. Distrust between physician practices and health plans arose intermittently, particularly over payment and data issues. Health plans occasionally made delayed payments or encountered difficulty with patient attribution, and most were unable to deliver the promised data to practices, much less on schedule.

Those on the provider side sometimes interpreted the plans' actions or inaction as indicating a lack of commitment to pilot goals. HealthTeamWorks proved to be critical as a neutral convener to mediate differing points of view, prevent violation of antitrust laws (discussed below), and keep the initiative on track.

ANTITRUST LAWS Antitrust laws prevented group dialogue on payment. Practices became concerned that health plans would use "divide and conquer" strategies to underpay them for the value they provided. Had the pilot been convened by a governmental body, antitrust issues could have been mitigated through a local governmental entity, such as the governor's office. That was not an option in this case.

Thus, HealthTeamWorks had to conduct numerous individual discussions with plans and practices, often in consultation with legal counsel, to develop consistency across the pilot sites and attempt to minimize antitrust concerns. Although this approach proved successful, it was complex and time-consuming.

UNEVEN COMMITMENT FROM HEALTH PLANS Health plans participated voluntarily in Colorado's patient-centered medical home pilot without a mandate from the state legislature, Division of Insurance, or governor. Although this demonstrated the plans' strong general commitment, HealthTeamWorks had little leverage to compel less committed carriers to meet pilot obligations.

The practices provided the same level of care to all patients, regardless of payer source. This meant that all payers, regardless of their degree of participation in and commitment to the pilot, stood to benefit from the outcomes.

NUMEROUS SELF-FUNDED EMPLOYERS Self-funded employers contract with health plans for administrative services only or third-party administration of their plans, and each decides which benefits to offer. In Colorado, such employers, both local and national, constitute a large portion of the market: More than 1,000 self-funded employers insured patients in the sixteen pilot practices. It was not feasible to obtain consent from each self-insured employer to pay the extra fee.

To compensate practices for caring for these patients, one plan opted to include all of its administrative-services-only members in the pilot. This plan recognized that the enhanced level of care—expanded access, care management and coordination, and proactive management of high-cost patients—benefited all patients and believed that it could reduce the plan's costs down the road.

Other plans participating in the pilot asked large self-funded employers for permission to charge back the extra payments. Most declined, either because they didn't understand the pilot or because they believed (correctly) that they could garner the benefits for their employees without having to pay for them.

As a result, the participating practices received a care management fee for only some 20 percent of the 100,000 patients in the pilot practices. This was discouraging for practices. It reduced the resources they could devote to achieving pilot goals and was not sustainable over the long term.

COMPETING NATIONAL AND LOCAL DEMANDS Health plans understandably want to standardize functions across markets while maintaining consistency among plans participating in local programs. For instance, it is more efficient for national plans to have one standardized pay-for-performance program across all markets than to

calculate payment formulas for myriad local initiatives.

CHALLENGES SPECIFIC TO PRACTICES As a result, participating practices were nearly overwhelmed by the time that was necessary to navigate each plan's services. Complex care managers employed by plans, often residing outside Colorado, had to be reached through toll-free numbers and could work only with their plan's patients. Care managers employed by the practices found it difficult to establish relationships with all of the complex care managers employed by the plans.

Another major barrier on the practice side was the fact that varied, opaque pricing for pharmacy, laboratory, imaging, and other specialty referrals made it hard for practices to give patients lower-cost options. Providers wanted to steer patients to the lowest-cost service, as long as quality was equal, but they lacked the data necessary to support such decisions. Eventually two plans shared relative cost comparisons, which helped practices determine which facilities were less expensive for similar procedures. For instance, upon noticing that imaging and surgeries done at freestanding facilities were often less expensive than those done at hospitals, practices modified their referral patterns in some cases.

Finally, benefit plans that allowed unlimited choice of providers—such as preferred provider plans—led to fragmented data and reduced practices' ability to coordinate and deliver cost-effective care. For instance, pilot providers were rarely notified when patients visited specialists, emergency departments, or hospitals, and they rarely received treatment summaries.

DATA ISSUES Data reporting proved challenging for both plans and practices. A major focus of the quality improvement coaching was to teach practices how to use data to drive improvement. For immediate feedback, practices collected their own quality data from their electronic health records or registries. Each practice also conducted patient surveys every six months on 200 patients, working with quality improvement coaches to assess opportunities to improve.

Accessing electronic health record data was difficult, particularly as practices converted to meet federal meaningful-use standards. Many practices lost the ability to capture and report quality metrics for several months during upgrades to meet these goals.

In addition to data on quality and patient experience, practices needed ongoing reports to drive improvements in cost and use. This presented one of the plans' biggest challenges.

Some plans were not convinced of the practices' need to gain access to these data to manage their patient populations and decrease cost trends. Others intended to provide the data but were unable to marshal the internal resources to build and routinely disseminate reports. Still others were committed but could not overcome the limitations of their claims systems.

When data were delivered, reports did not have consistent information or formats, came at different intervals, or required searching through multiple websites. This created further complexity for the practices and made it difficult to use the data effectively. As with the payment issue, practices interpreted this failure to provide routine and robust data as lack of commitment on the plans' part.

The plans also struggled to provide demographic data to the pilot evaluator to conduct patient surveys using the Consumer Assessment of Healthcare Providers and Systems.[9] As a result, only a fraction of planned baseline and post-pilot surveys will be conducted. All of the plans provided utilization data to the evaluator. However, despite explicit data specifications, plans lacked common claims system definitions. The plans did not transmit actual cost data—those will be imputed based on a normalized cost methodology.

PAYMENT ISSUES Payment issues arose despite the best intentions. A blended payment model was selected to address problems observed when using one model alone. For instance, overuse of services is often observed in a fee-for-service model, underuse of services in a capitated model, or the focus on a specific area in a pay-for-performance model. However, a blended payment model that includes fee-for-service, per member per month, and pay-for-performance is complex and difficult for plans to administer. Health plans' claims payment systems are typically designed for fee-for-service reimbursement. They could not automate per member per month payments, especially for a small group of practices. Most plans had to generate payments manually—a resource-intensive approach that caused delays, particularly at the beginning of the pilot, when practice outlays were the largest and trust was fragile.

Despite the blended payment model, fee-for-service reimbursement continued to contribute the largest portion of practice income, particularly given the 20 percent penetration for per member per month payments described. This forced clinics to continue seeing high volumes of patients in their offices in order to sustain revenue, while trying to provide more comprehensive coordinated care for their entire panel of patients.

Total panel management requires a different culture and different strategies. For true panel

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management to succeed, practices need time to learn and build new care models; hire or retrain staff; increase patient access points; implement technology; and assess and manage their entire population, giving extra attention to high-risk patients.

These needs were even more pronounced in the very small practices of one or two providers, where panel sizes, and thus numbers of attributable patients, were already too low to cover fixed transformation costs such as hiring extra staff. Long-term strategies need to be identified to meet the resource needs of small practices.

Finally, designing a pay-for-performance program de novo was unwise. Aggregated cost and utilization data across payers proved unobtainable, so in year 1, plans paid a performance bonus based only on quality measures. For year 2, it became apparent that the methodology to measure improvements in cost and use was far too complex. We are exploring alternative strategies, including plans' making payments based on each one's calculated savings for cost and use, with 50 percent of bonus dollars going to quality and 50 percent to cost. We also are looking at alternative strategies, including each plan's paying based on its calculated savings for cost and use.

Discussion

The US health care system is unsustainable in its current form. A growing body of evidence suggests that the patient-centered medical home is an effective model to transform primary care and serve as a foundation for accountable care organizations or "medical neighborhoods"—specialists, hospitals, mental health services, hospice, home health, and other care providers—working together in integrated communities of care.

Creating patient-centered medical homes and enabling them to be successful will take strong commitments and collaborative effort on multiple fronts. To minimize complexity and fragmentation, payers must agree on patient-centered medical home definitions, measures, and general payment methods; provide sufficient upfront funding to motivate and enable practices to create the infrastructure necessary to support high-quality, safe, continuous, coordinated, comprehensive care; and provide rewards that can drive outcomes and sustain initial efforts. Complex care managers should be an integral part of a practice team or shared among multiple practices in a medical community so that they can work with all patients, regardless of which plan they are in.

To achieve cost savings and improve care quality, practices need to gain access to clinical and claims data and understand how to use them to drive improvement. Data must be actionable, complete, timely, collated across plans, risk stratified, and sortable.

Standardized mechanisms for information transfer, including standard measure sets, will reduce the administrative burden for health plans and practices alike and will permit comparison. Greater transparency about quality results and pricing can help practices, patients, and plans make more informed choices, benefiting the entire health care system.

Conclusion

The three-year Colorado pilot is now complete. This initiative and others have prompted many health plans to announce efforts to provide enhanced payments to support primary care transformation.[10,11] Colorado has been selected as one of the locations of the Comprehensive Primary Care Initiative through the Center for Medicare and Medicaid Innovation; many of the pilot practices, as well as dozens of other practices across Colorado, are already participating in these next-generation programs or have applied to participate. We hope that payers and providers can use our experiences to inform their initiatives, address or prevent obstacles, and enable long-term success. ■

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NOTES

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In this month's *Health Affairs*, Marjie Harbrecht and Lisa Latts offer preliminary results of the Colorado Multipayer Patient-Centered Medical Home Pilot, which ran from May 2009 through April 2012. In many respects the pilot was successful—preliminary results show that the pilot significantly reduced emergency department visits and also reduced hospital admissions, particularly for patients with multiple chronic conditions. Yet participants in the pilot ran into obstacles, including having to foot the bill for extra services to patients whose employer-sponsored insurance plans weren't willing to pay the enhanced medical home-related fees. The authors conclude that more collaborative efforts will be needed to make medical homes successful, including a broad commitment by all payers to invest enough in them to make them work.

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